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Scientific Suds

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Homemakers to Benefit From

SCIENTIFIC SUDS

by Beverly Gould

Technical Journalism Sophomore

FINDING the best way to do your laundry is leading experts in the field of household equipment at Iowa State a merry chase among the wash tubes and scientific equipment they use to arrive at the answers.

Extensive tests showed that soap, soft hot water and a 12-minute washing time were the top wash day combination. But Dr. Florence Ehrenkranz, of the Department of Household Equipment, said the only real conclusion they reached was that more work needs to be done. This series of experiments was only a starting point in finding out what will really give you the cleanest clothes.

You're probably thinking that anyone would have guessed that soap and soft hot water would clean clothes best. But these experiments were not a matter of haphazardly mixing soap and water to form a suds and swishing a few shirts and sox around for a while and then looking to see if they appeared cleaner than when the process began. All of the things that could change, such as the amount of soap and the hardness of the water were measured so they could be duplicated on succeeding tests.

The investigation carried on by Alvarita Sturtevant MacBride, a graduate student in household equip-

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ment, under the direction of Dr. Ehrankranz, involved the following variables: a household automatic washer, the Comparator, a custom-built washer for test purposes; water of two hardnesses; water of 140°F. and 63°.; a general purpose soap; a general purpose detergent; and 8 and 12 minute washing times.

Even dirtiness of the cloth was regulated. Specially soiled cloth, uniformly treated with a solution of oils and lampblack, was used. The soiled cloth was in four inch strips. To make it easier to handle, it was sewed to larger pieces of cloth. The material being tested didn't make up the full washer load, so stuffers were used to make up the rest of the load in both washers.

The effectiveness of the combination of soaps and waters under investigation was not left to guess work and mere opinions of which result looked better. With a device known as a Hunter reflectometer, the percentage of light each swatch reflected was measured before and after washing. This was compared with enamel reflectance standards.

The hardness of water is measured in grains of hardness per gallon. The scale runs from zero to 30 grains hardness. For the experiments they obtained soft water of zero grains hardness by installing zeolite water softeners in both the hot and cold water lines. Water of 29 grains hardness came directly from the faucets since Ames is in the hard water area of the country.

The automatic household washer used in the experiment had a flexible fin which provided an up and down washing action. The Comparator is a conventional or agitator-type washer, built specificially for testing. It is intended as a standard for comparison purposes, rather than as a standard of best possible washing performance.

In summarizing the results of the tests, Dr. Ehrenkranz stressed the fact that the results apply only to the variables tested. Her report pointed out different amounts of the same cleansers might have caused different results. Emphasis was placed on the interdependence of the variables, too. For instance, the statistics showed that soap is more effective than detergent in hot and cold soft waters and hard hot water, but the detergent is most effective in hard cold water.

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